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Notice of Allowability	Application No.	Applicant(s)	
	10/660,616	WASHIZAWA ET AL.	
	Examiner	Art Unit	
	Kenneth A. Parker	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment of 6/9/2005.
2. ☒ The allowed claim(s) is/are 1-14.
3. ☒ The drawings filed on 12 September 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

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EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Daniel Tanner, III on 8/18/05.

The application has been amended as follows:

Claims 1, 2 and 5 have been replaced by:

1. (Currently Amended) An apparatus to arrange spacers at fixed points on a display substrate utilizing a spacer dispersion solution that includes the spacers dispersed in a solvent, the apparatus comprising:

a nozzle head ~~to discharge~~ discharging the spacer dispersion solution from a plurality of nozzle holes, while scanning along a predetermined scanning direction, the plurality of nozzle holes being arranged at a ~~predetermined~~ non-zero angle with respect to a direction perpendicular to the scanning direction.

2. (Currently Amended) An apparatus to arrange spacers at fixed points on a display substrate utilizing a spacer dispersion solution that includes the spacers dispersed in a solvent, the apparatus comprising:

a nozzle head ~~to discharge~~ discharging the spacer dispersion solution from a plurality of nozzle holes, while scanning along a predetermined scanning direction,

the nozzle head being ~~rotatable~~ rotated such that an arrangement direction of the plurality of nozzle holes is inclined at a ~~predetermined~~ non-zero angle with respect to a direction perpendicular to the scanning direction.

5. (Currently Amended) A liquid crystal device, comprising:

a pair of substrates arranged to face each other with a sealing material interposed therebetween;

liquid crystal and spacers injected into a space surrounded by the pair of substrates and the sealing material, and the space is sealed,

one of the pair of substrates having a plurality of pixel regions and non-pixel regions formed around the pixel regions,

the spacers being arranged in a straight line at a ~~predetermined non-zero~~ angle
with respect to an arrangement direction of the pixel regions in plan view; and
a portion of the spacers being located at intersections of the non-pixel regions and
another portion of the spacers being arranged at locations other than intersections of the non-
pixel regions.

The following is an examiner's statement of reasons for allowance:

The following is a statement of reasons for the indication of allowable subject matter:

None of the prior art taught or suggested an apparatus which arranges spacers at fixed points on a display substrate where a nozzle head which discharges spacers in a solution from a plurality of holes was at an angle or inclined (ie., non-zero angle) to the scanning direction.

None of the prior art taught or suggested liquid crystal device with spacers which were injected (as opposed to lithographically formed) at fixed points on a display substrate in a straight line at a non-zero angle to the arrangement of the pixel regions with some at the intersections of the non-pixel regions and some not.

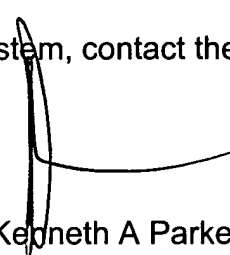
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth A. Parker whose telephone number is 571-272-2298. The examiner can normally be reached on M-F 10:30-6:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kenneth A Parker
Primary Examiner
Art Unit 2871